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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,607

10/18/2006

Tomoyuki Yanagihara

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2049

7055 7590 10/27/2009  
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EXAMINER

SULLIVAN, DANIELLE D

ART UNIT

PAPER NUMBER

1616

NOTIFICATION DATE

DELIVERY MODE

10/27/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

gbpatent@gbpatent.com  
pto@gbpatent.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/576,607	<b>Applicant(s)</b> YANAGIHARA ET AL.	
	<b>Examiner</b> DANIELLE SULLIVAN	<b>Art Unit</b> 1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) 1-17 and 23-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 18-22, 27 and 28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of Group VII in the reply filed on 6/15/2009 is acknowledged. The traversal is on the ground(s) that Group VII shares a common special technical feature. This is not found persuasive because applicant is attempting to claim a known compound, water, in a variety of different formulation having a broad spectrum of properties. Hence, unity is lacking because the claims are directed to different intended use of the compound which range from drinking to methods of treating liver.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1-17 and 23-26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 6/15/2009.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 18-22 and 27 are rejected under 35 U.S.C. 102(b) as being anticipated by Imaoka et al. (US 6,350,376).

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Imaoka et al. disclose a reductive water having zero or negative standard oxidation-reductive potential, preferably -0.3V or lower when determined by hydrogen electrode standard (column 3, lines 17-21; column 4, lines 39-43). Hydrogen dissolved water is preferred because the ORP can be easily controlled by dissolving a small amount of hydrogen into the water (column 4, lines 15-24). The hydrogen is dissolved into the water such that the dissolved hydrogen concentration in water is preferably 0.2-1.5 mg/L, preferably lowered in advance to 3 mg/L or lower using a known degassing device (column 4, lines 46-52).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Imaoka et al. (US 6,350,376) in view of Yoneda et al. (US 6,258,591).

### **Applicant's Invention**

Applicant claims a water enriched with dissolved hydrogen, wherein said water has an activity of reducing a radical with oxidizing power. Claim 28 further add at least one reducing agent selected from sulfite, thiosulfate, ascorbic acid and ascorbate.

### **Determination of the scope and the content of the prior art**

**(MPEP 2141.01)**

The teachings of Imaoka et al. are disclosed in above 102(b) rejection. Imaoka et al. teach the water may be hydrogen dissolved water, or water including a small amount of dissolved reducing agent other than hydrogen gas, such as sodium sulfate (column 4, lines 15-19).

**Ascertainment of the difference between the prior art and the claims  
(MPEP 2141.02)**

Imaoka et al. do not teach the hydrogen-dissolved water further comprises a reducing agent. However, Imaoka et al. teach that hydrogen dissolved water or water with a dissolved reducing agent may be used. It would be prima facie obvious to combine two compositions each of which is taught by the prior art to be useful for the same purpose in order to form a third composition that is to be used for the very same purpose; the idea of combining them flows logically from their having been individually taught in prior art.” In re Kerkhoven 205 USPQ 1069, (C.C.P.A. 1980). Thus, combining hydrogen dissolved water with a reducing agent is prima facie obvious.

Imaoka et al. do not teach the reducing agent is selected from thiosulfate, ascorbic acid and ascorbate. It is for this reason that Yoneda et al. is joined. Yoneda et al. teach sodium sulfite, sodium hydrogen sulfite, sodium thiosulfate, ascorbic acid and sodium ascorbate are known powerful sulfur-containing reducers for iodine and halogenating agents (column 3, lines 56-61). In view of In re Susi, 169 USPQ 423 (C.C.P.A. 1971), the substitution, for the same purpose, of one sulfur-

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containing reducer explicitly disclosed in Imaoka et al. with another taught in Yoneda et al. is at least prima facie obvious.

### **Finding of prima facie obviousness**

#### **Rationale and Motivation (MPEP 2142-2143)**

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Imaoka et al. and Yoneda et al. to further include a reducing agent selected from sulfite, thiosulfate, ascorbic acid and ascorbate. One would have been motivated to select one of these reducing agents because Imaoka et al. teach that hydrogen dissolved water or water with a dissolved reducing agent may be used. Furthermore, Yoneda et al. teach sulfite, thiosulfate, ascorbic acid and ascorbate can be used interchangeably to reduce iodine and halogenating agents.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Tanaka et al. (Dissolution of hydrogen and the ratio of the dissolved hydrogen content to the produced hydrogen in electrolyzed water using SPE water electrolyzer, 2003).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Danielle Sullivan whose telephone number is (571) 270-3285. The examiner can normally be reached on 7:30 AM - 5:00 PM Mon-Thur EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on (571) 272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Danielle Sullivan  
Patent Examiner  
Art Unit 1616

*/Mina Haghighatian/*  
Primary Examiner, Art Unit 1616